## **CLAIMS**

1. A process for producing a compound of formula I:

said process comprising the steps of:

a) subjecting a compounds of formula II:

to an enzymatic diastereomeric resolution in the presence of a suitable amount of enzyme chosen from Pig Liver Esterase or Porcine Pancreatic Lipase;

b) recovering said compound of formula I

wherein;

 $R_1$  is chosen from  $C_{1-12}$  alkyl,  $C_{2-12}$  alkenyl,  $C_{2-12}$  alkynyl,  $C_{6-12}$  aryl,  $C_{3-10}$  heterocycle,  $C_{6-12}$  aralkyl or  $C_{3-10}$  heteroaralkyl; and

R<sub>2</sub> is a hydroxyl protecting group.

2. The process according to claim 1, wherein  $R_1$  is  $C_{1\text{--}12}$  alkyl.

- 3. The process according to claim 1 wherein  $R_2$  is chosen from:  $CO-C_{1-6}$  alkyl,  $CO-C_{6-12}$  aryl,  $CO-C_{1-6}$  alkoxy,  $CO-C_{6-12}$  aryloxy, or  $CO-C_{6-12}$  arylalkyl.
- 4. The process according to claim 1, wherein  $R_2$  is  $CO-C_{6-12}$  aryl.
- 5. The process according to claim 1, wherein the enzyme is Pig Liver Esterase.
- 6. The process according to claim 1, wherein the enzyme is Porcine Pancreatic Lipase.
- 7. The process according to claim 1, further comprising the steps of:
  - a) replacing the functional group at position C4 of the compound of formula I to produce a compound of formula V:

- b) removing the group  $R_2$  of said compound of formula V;
- c) recovering a compound of formula VI:

V

or a pharmaceutically acceptable salt thereof;

wherein;

B is purine or pyrimidine base or an analogue thereof.

8. The process according to claim 7, wherein B is chosen from:

wherein;

 $R_3$  is chosen from H,  $C_{1-6}$  alkyl,  $C_{1-6}$  acyl and  $CO-R_9$ ; wherein R9 is H or C1-6 alkyl;

 $R_4$  and  $R_5$  are each independently chosen from H,  $C_{1-6}$  alkyl, bromide, chloride, fluoride, iodide or  $CF_3$ ; and  $R_6$ ,  $R_7$  and  $R_8$  are each independently chosen from H, bromide, chloride, fluoride, iodide, amino, hydroxyl or  $C_{3-6}$  cycloalkylamino.

9. The process according to claim 1, further comprising the step of recovering a compound of formula VII:

- 10. A process according to claim 1, wherein  $R_1$  is  $C_{1-12}$  alkyl and  $R_2$  is  $CO-C_{6-12}$  aryl.
- 11. A process according to claim 1, wherein  $R_1$  is methyl and  $R_2$  is benzoyl.

12. A process for producing a compound of formula III:

said process comprising the steps of:

a) subjecting a compounds of formula IV:

to an enzymatic diastereomeric resolution in the presence of a suitable amount of enzyme chosen from Candida Antarctica "A" lipase, Candida Antarctica "B" lipase, Candida Lypolitica Lipase or Rhizomucor Miehei Lipase;

b) recovering said compound of formula III;

wherein;

 $R_{11}$  is chosen from  $C_{1-12}$  alkyl,  $C_{2-12}$  alkenyl,  $C_{2-12}$  alkynyl,  $C_{6-12} \quad \text{aryl}, \quad C_{3-10} \quad \text{heterocycle}, \quad C_{6-12} \quad \text{aralkyl} \quad \text{or} \quad C_{3-10}$  heteroaralkyl; and

 $R_{12}$  is a hydroxyl protecting group.

13. The process according to claim 12, wherein  $R_{11}$  is  $C_{1\text{--}12}$  alkyl.

- 14. The process according to claim 12 wherein  $R_{12}$  is chosen from:  $CO-C_{1-6}$  alkyl,  $CO-C_{6-12}$  aryl,  $CO-C_{1-6}$  alkoxy,  $CO-C_{6-12}$  aryloxy, or  $CO-C_{6-12}$  arylalkyl.
- 15. The process according to claim 12, wherein  $R_{12}$  is  $CO-C_{6-12}$  aryl.
- 16. The process according to claim 12, wherein the enzyme is Candida Antarctica "A" lipase.
- 17. The process according to claim 12, wherein the enzyme is Candida Antarctica "B" lipase.
- 18. The process according to claim 12, wherein the enzyme is Candida Lypolitica Lipase.
- 19. The process according to claim 12, wherein the enzyme is Rhizomucor Miehei Lipase.
- 20. The process according to claim 12, further comprising the steps of:
  - a) replacing the functional group at position C4 of the compound of formula III to produce a compound of formula VIII:

b) removing the group  $R_{12}$  of said compound of formula VIII;

c) recovering a compound of formula IX:

or a pharmaceutically acceptable salt thereof; wherein:

B is purine or pyrimidine base or an analogue thereof.

21. The process according to claim 20, wherein B is chosen from:

wherein;

 $R_3$  is chosen from H,  $C_{1-6}$  alkyl,  $C_{1-6}$  acyl and  $CO-R_9$ ; wherein R9 is H or C1-6 alkyl;

 $R_4$  and  $R_5$  are each independently chosen from H,  $C_{1-6}$  alkyl, bromide, chloride, fluoride, iodide or  $CF_3$ ; and  $R_6$ ,  $R_7$  and  $R_8$  are each independently chosen from H, bromide, chloride, fluoride, iodide, amino, hydroxyl or  $C_{3-6}$  cycloalkylamino.

22. The process according to claim 26, further comprising the step of recovering a compound of formula X:

- 23. A process according to claim 12, wherein  $R_{11}$  is  $C_{1-12}$  alkyl and  $R_{12}$  is  $CO-C_{6-12}$  aryl.
- 24. A process according to claim 12, wherein  $R_{11}$  is methyl and  $R_{12}$  is benzoyl.